AMENDMENTS TO THE CLAIMS

Claims 1-38 (canceled).

Claim 39 (new) A transducer comprising:

a pair of spaced magnets, the pair of spaced magnets forming a first passage;

a coil, the coiling being formed to include a second passage;

the first passage and the second passage respectively forming a first portion and a second portion of a tunnel, the tunnel having a central axis, a first side wall and a second side wall, the first side wall and the second side wall defining a nominal tunnel width, and a first upper wall and a second upper wall, the first upper wall and the second upper wall defining a nominal tunnel gap;

a reed having a central portion that extends through the tunnel, a stationary end and a deflection end, wherein the read has a tip portion that lies at least partially within the first passage, the read being mounted such that a portion of the reed is free to be deflected towards or away from respective ones of the pair of spaced magnets;

the coil having a first end disposed toward the stationary end and a second end disposed adjacent the magnets;

the pair of magnets having a first end disposed adjacent the second end of the coil and a second end disposed toward the deflection end of the reed;

the tunnel having a tapered portion, the tapered portion either increasing or decreasing the nominal rib gap at the tapered portion, wherein the tapered portion comprises one of the first portion or the second portion.

Claim 40 (new) The transducer of claim 39, wherein the tapered portion provides a nominal rib gap that gradually decreases.

Claim 41 (new) The transducer of claim 39, wherein the tapered portion comprises each of the first portion and the second portion.

Claim 42 (new) The transducer of claim 39, wherein the tapered portion provides a nominal rib gap that gradually increases.

Claim 43 (new) The transducer of claim 39, wherein the tapered portion has a slope, the slope being substantially equal to a slope of the reed when it is deflected to a position at which it contacts the tapered portion.

Claim 44 (new) The transducer of claim 39, wherein the tapered portion comprises a first shim and a second shim disposed respectively between a first magnet of the pair of magnets and a second magnet of the pair of magnets and a yoke structure.

Claim 45 (new) The transducer of claim 39, wherein the tapered portion comprises a first reduced thickness portion of a first magnet of the pair of magnets and a second reduced thickness portion of a second magnet of the pair of magnets.

Claim 46 (new) The transducer of claim 39, wherein the transducer comprises a yoke, the pair of magnets being secured to the yoke, and the tapered portion comprises a tapered portion of the yoke.

Claim 47 (new) The transducer of claim 39, wherein the tapered portion is configured to limit displacement of the reed within the tunnel.

Claim 48 (new) The transducer of claim 39, the tunnel comprising a second tapered portion, the second tapered portion either increasing or decreasing the nominal tunnel width at the second tapered portion, wherein the second tapered portion comprises one of the first portion or the second portion.

Claim 49 (new) The transducer of claim 48, wherein the second tapered portion provides a nominal tunnel width that gradually decreases.

Claim 50 (new) The transducer of claim 48, wherein the second tapered portion comprises each of the first portion and the second portion.

Claim 51 (new) The transducer of claim 48, the second tapered portion provides a nominal tunnel width that gradually increases.

Claim 52 (new) The transducer of claim 48, wherein the second tapered portion has a slope, the slope being substantially equal to a slope of the reed when it is deflected to a position at which it contacts the second tapered portion.

Claim 53 (new) The transducer of claim 48, wherein the second tapered portion comprises a first shim and a second shim disposed respectively between a first magnet of the pair of magnets and a second magnet of the pair of magnets and a yoke structure.

Claim 54 (new) The transducer of claim 48, wherein the second tapered portion comprises a first reduced thickness portion of a first magnet of the pair of magnets and a second reduced thickness portion of a second magnet of the pair of magnets.

Claim 55 (new) The transducer of claim 48, wherein the transducer comprises a yoke, the pair of magnets being secured to the yoke, and the second tapered portion comprises a tapered portion of the yoke.

Claim 55 (new) The transducer of claim 48, the coil comprising bobbin and wherein the second tapered portion comprises a core portion of the bobbin.

Claim 56 (new) A transducer comprising:

a pair of spaced magnets, the pair of spaced magnets forming a first passage;

a coil, the coiling being formed to include a second passage;

the first passage and the second passage respectively forming a first portion and a second portion of a tunnel, the tunnel having a central axis, a first side wall and a second side wall, the first side wall and the second side wall defining a nominal tunnel width, and a first upper wall and a second upper wall, the first upper wall and the second upper wall defining a nominal tunnel gap;

a reed having a central portion that extends through the tunnel, a stationary end and a deflection end, wherein the read has a tip portion that lies at least partially within the first passage, the read being mounted such that a portion of the reed is free to be deflected towards or away from respective ones of the pair of spaced magnets;

the coil having a first end disposed toward the stationary end and a second end disposed adjacent the magnets;

the pair of magnets having a first end disposed adjacent the second end of the coil and a second end disposed toward the deflection end of the reed;

the tunnel having a tapered portion, the tapered portion either increasing or decreasing the nominal tunnel width at the tapered portion, wherein the tapered portion comprises one of the first portion or the second portion.

Claim 57 (new) The transducer of claim 56, wherein the tapered portion provides a nominal tunnel width gradually decreases.

Claim 58 (new) The transducer of claim 56, wherein the tapered portion comprises each of the first portion and the second portion.

Claim 59 (new) The transducer of claim 56, the tapered portion provides a nominal tunnel width that gradually increases.

Claim 60 (new) The transducer of claim 56, wherein the tapered portion has a slope, the slope being substantially equal to a slope of the reed when it is deflected to a position at which it contacts the tapered portion.

Claim 61 (new) The transducer of claim 56, wherein the tapered portion comprises a first shim and a second shim disposed respectively between a first magnet of the pair of magnets and a second magnet of the pair of magnets and a yoke structure.

Claim 62 (new) The transducer of claim 56, wherein the tapered portion comprises a first reduced thickness portion of a first magnet of the pair of magnets and a second reduced thickness portion of a second magnet of the pair of magnets.

Claim 63 (new) The transducer of claim 56, wherein the transducer comprises a yoke, the pair of magnets being secured to the yoke, the tapered portion comprises a tapered portion of the yoke.

Claim 64 (new) The transducer of claim 56, wherein the tapered portion is configured to limit displacement of the reed within the tunnel.

Claim 65 (new) The transducer of claim 56, the tunnel comprising a second tapered portion, the second tapered portion either increasing or decreasing the nominal rib gap at the second tapered portion, wherein the second tapered portion comprises one of the first portion or the second portion.

Claim 66 (new) The transducer of claim 65, wherein the second tapered portion provides a nominal rib gap that gradually decreases.

Claim 67 (new) The transducer of claim 65, wherein the second tapered portion comprises each of the first portion and the second portion.

Claim 68 (new) The transducer of claim 65, wherein the second tapered portion provides a nominal rib gap that gradually increases.

Claim 69 (new) The transducer of claim 65, wherein the second tapered portion has a slope, the slope being substantially equal to a slope of the reed when it is deflected to a position at which it contacts the second tapered portion.

Claim 70 (new) The transducer of claim 65, wherein the second tapered portion comprises a first shim and a second shim disposed respectively between a first magnet of the pair of magnets and a second magnet of the pair of magnets and a yoke structure.

Claim 71 (new) The transducer of claim 65, wherein the second tapered portion comprises a first reduced thickness portion of a first magnet of the pair of magnets and a second reduced thickness portion of a second magnet of the pair of magnets.

Claim 72 (new) The transducer of claim 65, the coil comprising bobbin and wherein the second tapered portion comprises a core portion of the bobbin.